

Mathematics Colloquium

*University of Texas at Arlington - Department of Mathematics
Proudly Presents:*

Dr. Frank Sottile

Texas A&M University

October 2nd, 2026

2 pm – 3 pm

Pickard Hall 305

“Galois groups in Enumerative Geometry”

Abstract: In 1870 Jordan explained how Galois theory can be applied to problems from enumerative geometry, with the group encoding intrinsic structure of the problem. Earlier Hermite showed the equivalence of Galois groups with geometric monodromy groups, and in 1979 Harris initiated the modern study of Galois groups of enumerative problems. He posited that a Galois group should be ‘as large as possible’ in that it will be the largest group preserving internal symmetry in the geometric problem.

I will describe this background and discuss some work of many to compute, study, and use Galois groups of geometric problems, including those that arise in applications of algebraic geometry.

SHORT BIO: Frank Sottile is Professor of Mathematics and Director of Honors and Undergraduate Research at Texas A&M University. He received his Ph.D. from the University of Chicago and held positions at the University of Toronto, the Mathematical Sciences Research Institute, the University of Wisconsin, and the University of Massachusetts before joining Texas A&M. His broad research spans several areas of algebraic geometry, especially real, computational, and combinatorial algebraic geometry, and also includes algebraic combinatorics and Schubert calculus. He is the author of the influential monograph *Real Solutions to Equations from Geometry*, published by the American Mathematical Society. He is a Fellow of the American Mathematical Society, the American Association for the Advancement of Science, and the Society for Industrial and Applied Mathematics, and was the founding chair of the SIAM Activity Group on Algebraic Geometry.

Refreshments before the talk and socializing following the talk
<http://www.uta.edu/math/seminars>